Oxybelus bipunctatum Olivier. Twenty-two females, 7 males; June 8-October 16; in sandy areas behind beach.

Oxybelus cressonii Robertson. One female; August 30; on sand near edge of woods.

Oxybelus decorosum Mickel. Two females; September 8-October 11; on sand near edge of woods.

Oxybelus emarginatum Say. Five females, 16 males; June 28-September 1; on sand behind beach; 1 female, 1 male on flowers of *Solidago juncea;* 2 females, 4 males on flowers of *Daucus carota.*

Oxybelus inornatum (Robertson). One female; July 3; on sand behind beach. This specimen was taken dead from the clutches of an asilid, *Efferia albibarbis* (Macquart) (det. C. H. Martin).

Oxybelus quadrinotatus Say. One female; July 6; in sandy spot alongside road on flowers of *Asclepias syriaca.*

Oxybelus subcornutum Cockerell. Two males; July 3-August 2; behind beach on sand.

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A NEW PARHOLASPID MITE FROM COSTA RICA[1]

(ACARINA: PARHOLASPIDAE)

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The genus *Calholaspis* was erected by Berlese (1918) to accommodate a new species of macrochelid mite, *C. superbus.* The genus was characterized as having fused sternal-metasternal shields, elongate sternal shield, more or less contiguous epigynial-ventrianal shields, and fused exopodal and peritrematal shields. *C. superbus* Berl. also possesses a tectum which is produced into a median spine, and has six pairs of preanal setae. Evans (1956) erected the macrochelid subfamily Parholaspinae, into which *Calholaspis* was placed. A second species, *C. berlesei,* was described by Krantz (1960), at which time the subfamily Parholaspinae was raised to a family. *C. berlesei* differs from *C. superbus* primarily in having eight pairs of preanal setae rather than six. A third species recently was sent to the author by Dr. E. W. Baker, U. S. Department of Agriculture, which shares an interesting characteristic with *C. berlesei*—it possesses great numbers of secondary dorsal setae (the dorsum of *C. superbus* has not

[1]Approved as Technical Paper No. 1534, Oregon Agricultural Experiment Station.

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been seen). These are particularly striking in that most of them are triple-pronged, resembling small tridents. The new species also is peculiar in that the posteromedial portion of the sternal shield is an unsclerotized, longitudinally striate area, rather than reticulated as is the anterior portion. This development probably allows for additional expansion of the genital region during oviposition. Similarities in major structural characteristics between the new and described species, however, indicate that the setal and sternal characteristics should be considered only as specific structures.

The following key will serve to separate the three known species.

KEY TO FEMALES OF THE GENUS CALHOLASPIS BERLESE[3]

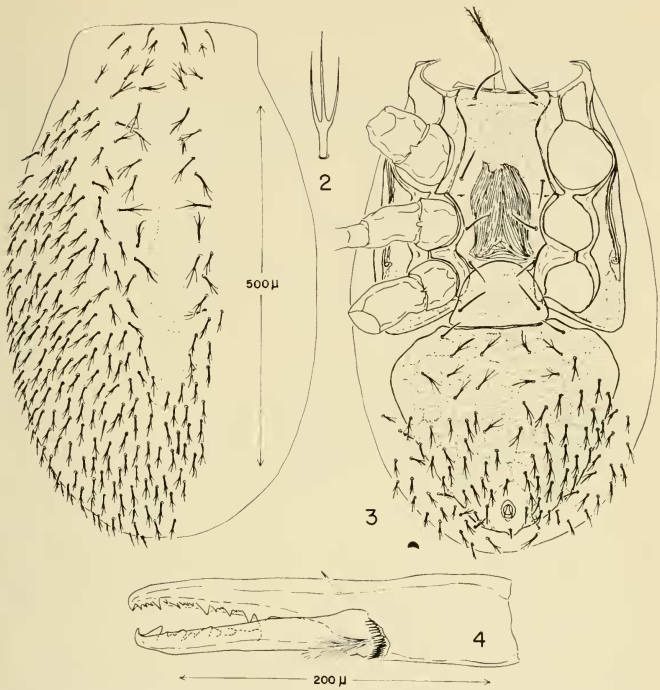
1. Ventrianal shield with six pairs of preanal setae; tarsus II with stout spurs distally ..... *C. superbus* Berl.
   Ventrianal shield with more than six pairs of preanal setae; tarsus II without spurs distally 2
2. Ventrianal shield with eight pairs of preanal setae; dorsal and ventral setae simple, with less than 75 pairs of dorsal setae; sternal shield without unsclerotized striate region ..... *C. berlesei* Krantz
   Ventrianal shield with 32-33 pairs of preanal setae; majority of dorsal and ventral setae trident-like, with more than 150 pairs of dorsal setae; sternal shield with longitudinally striate region posteromedially ..... *C. trianothrix* n. sp.

Calholaspis trianothrix n. sp.
(Fig. 1-4)

Female.—Length of idiosoma = 714 μ; width of idiosoma at level of coxae IV = 437 μ. Dorsal shield (fig. 1) truncate anteriorly, weakly crenulate-reticulate laterally, weakly punctate medially, and with at least 160 pairs of trident-like setae, of which some are asymmetrically inserted; setae D_1 appear to be simple; medial portion of dorsal shield showing strong muscle attachment pattern, without setal insertions in this area. Tritosternum with two pectinate lacinae, its base flanked by a pair of narrow presternal shields. Sternal shield (fig. 3) strongly reticulate anteriorly, with a distinct longitudinally striate pattern medially and posteriorly, and extending beyond the anterior angles of coxae IV; with three pairs of sternal setae plus the metasternal setae, the metasternal shields being fused to the sternal. Epigynial shield (fig. 3) strongly reticulate and

[3]Examination of the Berlese specimens of *C. superbus* at Florence reveals that the number of preanal setae may exceed six on either one or both sides of the shield. This character should, therefore, be considered as unreliable. The dorsum of this species possesses numerous pairs of secondary setae, similar to those of *C. berlesei*, but considerably longer. Satisfactory separation of *C. superbus* and *C. berlesei* may be achieved as follows:

Dorsal setae very long, distinctly exceeding the insertions of the setae behind them; sternal shield with arch-like lines forming the basis of ornamentation ..... *superbus*
Dorsal setae shorter, barely reaching the insertions of the setae behind them; sternal shield generally reticulate, without arch-like pattern ..... *berlesei*



Calholaspis trianothrix n. sp., female; fig. 1, Dorsum, fig. 2, Typical dorsal seta; fig. 3, Venter; fig. 4, Lateroventral aspect of chelicera.

punctate, slightly wider than long, and with a pair of simple setae on the posterolateral angles. Ventrianal shield triangular, crenulate-reticulate; with at least 30 pairs of setae in addition to the usual adanal and postanal setae; with most of the preanal setae trident-like (fig. 2); integumental setae adjacent to shield also trident-like. Peritrematal and exopodal shields fused, extending slightly posterior to coxae IV; stigmata between coxae III-IV; peritremes extending anteriorly beyond coxae II. Hypostome with a pair of simple duetosternal setae and three pairs of simple hypostomal setae, of which the most anterior pair is longest. Corniculi long, narrow, and acuminate distally. Palp with five free segments; palpal claw 3-tined, the empodial element being spatulate distally. Chelicerae (fig. 4) narrow and approximately the length of the corniculi; fixed cheliceral digit multidentate and with a strong simple dorsal seta; movable digit also multidentate, basally with a setal brush and a setal coronet. Legs I longer than legs II-IV, slender and with simple setae; without ambulacra or claws. Legs II-IV

armed with simple setae, ambulacra and claws; lateral pretarsal elements undivided distally.

Male.—Unknown.

Type Material.—A single holotype female with the following data: In soil with miscellaneous plants; Costa Rica (intercepted at Miami); Jan. 20, 1958; coll. E. Okasaka; Lot 58-3180, U.S.N.M. The holotype female will be deposited at the U. S. National Museum, Washington, D. C.

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BOOK REVIEW

MOSQUITOES OF THE SOUTH PACIFIC, 2 VOLS., by John N. Belkin (illustrations by Charles D. Hogue). University of California Press, Berkeley, Calif. 1056 pages, 412 plates, 1962. Price, $20.00.

Little systematic collection of mosquitoes had ever been undertaken in the South Pacific area prior to 1940. Most of the available records resulted from mere samples of the fauna, principally of the better-known islands. A wide interest in arthropod-borne disease in the area was awakened by the arrival and establishment of Allied troops during World War II; their various epidemiological units eventually combed the islands and collected probably several hundred thousand specimens of all stages of mosquitoes, over 100,000 of which are now preserved in institutional and private collections.

In the present two volumes the author has sought to describe, illustrate, and key out all the species of mosquitoes now known from the South Pacific, and to present the readily available information on their bionomics, disease relationships, and distribution. He has not only succeeded admirably in this task, but has laid a foundation for future studies on the derivation of the mosquito fauna of the area as a whole and of its various parts. The 82-page introduction makes fascinating reading for one whose interests lie in the general faunistic problems of the area. Dr. Belkin's tentative conclusions about the movement of people and populations within the area, based on mosquito distribution, promise to provide a stepping stone to additional investigations of possible value to anthropology.

Of principal importance to alpha taxonomists is the section on systematic treatment, comprising most of the pages of the first volume and all of the second (the illustrations). The genera are grouped by tribe, and each species is discussed from the standpoint of synonymy; descriptive taxonomic characters; systematics in the broadest sense, to include discussions of variations and relationships; bionomics; disease relationships and economic importance; and distribution, for the most part by individual island or island group. The subfamlies, tribes, and genera are characterized in much the same way.—RICHARD H. FOOTE, *Entmology Research Division Agric. Res. Serv., U.S.D.A., Washington, D. C.*